

-continued

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What is claimed is:

1. A cooperative binding split aptamer (CBSA)-based enzyme-assisted target recycling (EATR)-amplified sensor comprising a CBSA, wherein the CBSA comprises SEQ ID NO:8 and SEQ ID NO:2.

2. The CBSA-based EATR-amplified sensor according to claim 1, the CBSA being modified by addition of a reporter label.

3. The CBSA-based EATR-amplified sensor according to claim 2, the reporter label being a fluorescent dye, a gold nanoparticle (AuNP), or a fluorescent dye and quencher pair.

4. A cooperative binding split aptamer (CBSA)-based enzyme-assisted target recycling (EATR)-amplified sensor comprising a CBSA, wherein the CBSA comprises SEQ ID NO:3 and SEQ ID NO:2.

5. A method for detecting dehydroisoandrosterone-3-sulfate (DIS) in a sample comprising contacting the sample with the CBSA-based EATR-amplified sensor of claim 4.

6. The method according to claim 5, the CBSA being recognized and cleaved by Exo III at a C3 spacer abasic site.

7. The method according to claim 5, the sample being selected from blood, plasma, urine, tears, and saliva.